

# NEWSLINE

Published weekly for employees of Lawrence Livermore National Laboratory

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## New Lab computer sets world mark



FILE PHOTO

Energy Secretary Spencer Abraham signs the first rack for the BlueGene/L supercomputer during a ceremony dedicating the Laboratory's new supercomputing facility in July. Looking on are Laboratory Director Michael Anastasio and Dona Crawford, associate director for Computation.

IBM's BlueGene/L supercomputer, destined for delivery to the Laboratory starting in November, has surpassed NEC's Earth Simulator in Japan to become the world's most powerful supercomputer, according to IBM.

Using the industry-standard LIN-

PACK benchmark, the IBM Blue Gene/L system attained a sustained performance of 36.01 Teraflops, eclipsing the three-year-old top mark of 35.86 Teraflops for the Japanese Earth Simulator in Yokohama, Japan. The

See **SUPERCOMPUTER**, page 8

## Greenville Road to close starting Monday, Oct. 11, for road and bridge project

By David Schwoegler

NEWSLINE STAFF WRITER

Starting Oct. 11, Greenville Road will close to through traffic south of the National Drive intersection and north of the Marathon Drive intersection.

The closure facilitates a City of Livermore construction project to widen Greenville Road and replace the Union Pacific Railroad bridge. However, there will be no anticipated effect to ACE train schedules.

To minimize traffic delays caused by construction detours on Greenville Road, Livermore and Sandia employees should choose alternate commute routes and allow 20-30 minutes additional commute time to get to and from the labs during construction.

The engineering studies are complete, right-of-way papers have been signed and the contractor has been selected. Environmentally significant animals have been tallied and accounted for. And the mandatory job-site construction signs have been installed.

Livermore traffic engineers advised that traffic will remain unsettled for the first two weeks of the closure and detour, as commuters experiment with alternate routes. After that, conditions should improve.

Employees should plan their workdays,

See **GREENVILLE**, page 7

## Satish Kulkarni takes post at UC Office of the President to facilitate UC collaborations

By Don Johnston

NEWSLINE STAFF WRITER

In his 26 years at the Laboratory, engineer Satish Kulkarni has held a wide variety of leadership positions on both the programmatic and discipline sides of the house.

Kulkarni now has the opportunity to tap the full breadth of his experience in his new assignment as executive director for Corporate Oversight in the University of California Office of Laboratory Management where he will identify ways the Department of Energy and University can further benefit from collaborations among laboratories and between labs and campuses.

"I'm very excited about this opportunity," said Kulkarni, who most recently served as division leader of the New Technologies Engineering Division (NTED). "In spite of our 'cul-

See **KULKARNI**, page 7

## Award for Lab collaboration with university

By Anne M. Stark

NEWSLINE STAFF WRITER

Fisk University in Nashville, Tenn. recently received a National Science Foundation Center of Excellence for Research in Science and Technology (CREST) award to establish a Center for Physics and Chemistry of Materials due in part to its collaborations with the Laboratory.

The Laboratory's Research Collaborations Program for Historically Black Colleges and Universities and Minority Institutions (HBCUs and MIs) was instrumental in helping Fisk obtain this award, according to Fisk professors Warren



JACQUELINE MCBRIDE/NEWSLINE

Fisk graduate student George Turner uses Ramen spectroscopy to study an antifreeze protein found in arctic fish.

See **CREST**, page 7



**Good chemistry in HOME visit**

— Page 3



**Focusing on Lab vision services**

— Page 5



**Hardy Site 300 plant a rarity**

— Page 8



## LAB COMMUNITY NEWS

### Weekly Calendar

Technical Meeting Calendar, page 4

Friday  
1

The **San Joaquin Expanding Your Horizons** conference will take place this Saturday, Oct. 2. Come join the organizing committee and stuff packets in preparation

for the event. If you are interested, come to Bldg. 319, room 130 (east end of the building) today from 11 a.m. to 1 p.m. Lunch will be provided. For more information, contact Linda Lucchetti, 2-5815.

Sunday  
3

The Juvenile Diabetes Research Foundation's Greater Bay Area Chapter will "**Walk to Cure Diabetes**" today. Be a part of

the University of California walking team on this day — walk with volunteers from the Lab, LBNL, Joint Genome Institute, UC Office of the President and UC Berkeley. The three-mile walk will occur at Heather Farm Park, Walnut Creek, with check-in time at 8 a.m. and start time at 9 a.m. The fund-raiser is part of an international, organized event with 200 sites in the U.S. and around the world and more than 500,000 people walking. For more information, contact Maureen Morley, 2-1770, or morley2@llnl.gov.

Monday  
4

Attention early risers. The **FitStop** on site workout facility will be open early at 6 a.m. on Mondays, Wednesdays and Thursdays

starting today. LLESA is implementing a new pilot program on expanded hours at FitStop located in Bldg. 415. The pilot program starts today and continues through Dec. 22. The FitStop hours during the pilot program will be: Mondays, Wednesdays and Thursdays: 6 a.m.- 6 p.m., Tuesdays and Fridays: 10 a.m.-6 p.m.

Wednesday  
6

A **Fidelity retirement counselor** will be available today, Oct. 14 and 21 to assist with: assessing the current state of retirement accounts, learning how to

diversify, planning asset allocation and identifying income strategies. Fidelity Investments Mutual Funds are available to UC's workplace retirement plan participants in addition to the UC-managed investments pools. If you would like to set up a consultation with a Fidelity representative, call 800-642-7131. When calling, be sure to specify that you are an LLNL employee.

UP  
&  
COMING

Talks and abstracts for the two-day "**Signal and Imaging Sciences Workshop**" on Nov. 18-19 are due Oct. 22. Two guest

keynote will present at Engineering's Center for Advanced Signal and Imaging Sciences (C.A.S.I.S) Workshop — Alan Oppenheim of MIT and Jim McClellan of Georgia Tech. Sessions will begin at 9 a.m. in the Bldg. 123 auditorium. There is no cost to attend the workshop. To register, attend or give a presentation, contact Dora Da Rosa, darosa2@llnl.gov, or 2-4797.

### RETIREES' CORNER

**Gus Carlson** (Mechanical Engineering, 2000) and wife Charlene spent five weeks touring Scandinavia and Ireland, with Char's sister and brother-in-law. The highlight for Gus was two weeks in Sweden meeting relatives. Gus' father immigrated to the United States with two sisters in 1922 at the age of 19. Two brothers followed in 1924. That left behind five other siblings and quite a few cousins, who by now have produced children and grandchildren. Gus met his uncle Arvid (the last of the siblings), five first cousins, and 24 other relatives, living in eight different cities and towns across Sweden. He also visited several ancestral homes, including the farm where his father lived and the village churchyard where his grandparents and great grandparents are buried. The church interior looks exactly the same as it did in a 1917 photograph of Gus' father's confirmation class.

In addition to Sweden, the Scandinavian part of the trip included four days in Copenhagen, a two-night cruise from Stockholm to Helsinki and back and four days in Norway. The Norwegian highlight was the "Norway in a Nutshell" trip from Oslo to Bergen via three trains, a bus and a ferry. The ferry cruises two fjords from Flam to Gudvangen. The whole trip is 10 hours of spectacular scenery.

The last two weeks were spent touring west, south, and east Ireland by car. Here also, the scenery is beautiful. B&B's are a very big business in Ireland, and Gus and Char were pleased with the ones they chose in Clifden, Dingle, Kinsale and Kilkenny. One driving tip for Ireland: Consider

paying for full collision coverage on your rental car. With left-hand driving, extremely narrow roads and overhanging bramble hedges, you are practically guaranteed to scratch the left side of the car. Gus didn't buy the insurance, but was able to pass the rental agency inspection by polishing the side of the car before turning it in.

Jan and **Harold Pfeifer** (Environmental Protection, 1993) recently returned from a vacation in New Orleans, La. They stayed in the French Quarter, and had dinner at Arnau's, Court of Two Sisters and Nola's restaurants. Nola's is one of three New Orleans restaurants owned by Emeril of television fame. Each dinner was outstanding. And, for additional treats, they had beignets and beverages at Café Dumonde. They enjoyed visits in New Orleans and the surrounding areas, which included the Easter Parade through the quarter, art museum, World War II D-Day Museum (most impressive), New Orleans River Walk and a drive to New Iberia, La., home of Tabasco. They toured the plant, which included the origins of the McIlhenny Company pepper sauce and the bottling plant. On the return, they visited an Acadian (French) community, where Evangeline lived.

There is no luncheon this month because of the dinner/dance on Saturday, Oct. 23, at the Elks Lodge in Livermore.

Please send any input to Jane or Gus Olson. E-mail: AugustO@aol.com or JaneRubert@aol.com, phone: (925) 443-4349 or snail mail address: 493 Joyce Street, Livermore, CA 94550.

Services are pending. Contributions in his memory may be made to any charitable agency benefiting cancer research or care.

### IN MEMORIAM

#### Leslie Molitor

Leslie Molitor died Sept. 2 at Doctor's Medical Center in Modesto. Leslie was 62 years old and a native of Berkeley, Calif. For the last 2 1/2 years, she had resided in Groveland. Before retiring from the Laboratory, she resided in Livermore.

Molitor loved to spend time with her grandchildren. She was very proud of their accomplishments no matter how small. She also enjoyed gardening and animals.

Molitor is survived by her husband of 20 years, Joe Montano; her sons, Pat Morgan and his wife, Sissy and Mike Morgan; her daughter, Jill Molitor; step-sons, Bob Montano and his wife, Eileen and Brick Montano and his wife, Sarah; step-daughter, Ember Foley and her husband, Jim; her brother, Graham Alexander and his wife, Marilyn and her brother-in-law, Carl Shellen; by 7 grandchildren, Justin and Halee Morgan, Lindsay and Amanda Montano, Rachel and James Foley and Kirsten Filler.

A memorial service was held in Livermore.

#### Richard Grover

Richard Grover, a Lab retiree, died Sept. 26 in his Livermore home, with his family by his side. He was 78.

Grover worked at the Laboratory as a weapons physicist for 35 years before retiring in 1992. Following retirement, he occasionally returned to the Lab to work on various projects.

Grover was born in Boston and raised in Connecticut. He received his bachelor's degree from Yale University and worked on his Ph.D. at the University of Rochester.

He was a veteran of the Navy and served during World War II.

Grover enjoyed nature and music. He played the piano and sang in the Bach Choral Society and Valley Choral Society.

### In search of HOME founders

*Newsline* will publish a special HOME Campaign 30th anniversary insert in late October. The HOME Campaign and *Newsline* would like to hear from employees and retirees who have founded or co-founded local non-profits that now benefit from the campaign. Contact Anne Stark, 2-9799, stark8, or Don Johnston, 3-4902, johnston19.

### Newsline

*Newsline* is published weekly by the Internal Communications Department, Public Affairs Office, Lawrence Livermore National Laboratory (LLNL), for Laboratory employees and retirees.

#### Contacts:

Media & Communications manager: Lynda Seaver, 3-3103

*Newsline* editor: Don Johnston, 3-4902

Contributing writers: Bob Hirschfeld, 2-2379; Charles Osolin, 2-8367; David Schwoegler, 2-6900; Anne M. Stark, 2-9799; Stephen Wampler, 3-3107. For an extended list of Lab beats and contacts, see <http://www.llnl.gov/llnl/06news/NewsMedia/contact.html>

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**Public Affairs Office:** L-797 (Trailer 6527), LLNL, P.O. Box 808, Livermore, CA 94551-0808

**Telephone:** (925) 422-4599; Fax: (925) 422-9291

**e-mail:** [newsline@llnl.gov](mailto:newsline@llnl.gov) or [newsonline@llnl.gov](mailto:newsonline@llnl.gov)

**Web site:** <http://www.llnl.gov/PAO/>

## AROUND THE LAB



## Valley Children's Museum makes HOME visit to Lab

By Linda Lucchetti

NEWSLINE STAFF WRITER

During this year's HOME Campaign employees can contribute to a local agency — a traveling museum on the road to becoming a permanent children's discovery facility. When it establishes its roots on a local site in the next three to four years, the Valley Children's Museum (VCM) will provide a wide array of activities for children to develop social skills, better understand science, observe their natural surroundings and inspire life-long learning.

To get better acquainted with the Lab and HOME campaign sponsors, VCM Board of Directors President Genevieve Getman-Sowa and Director of Development Linda Spencer visited this year's HOME Campaign planning committee members from the Chemistry & Materials Science Directorate, this year's sponsor, bringing with them an assortment of educational toys, hands-on activities, and even a miniature funhouse for a "show and tell" presentation about the virtual museum.

CMS Associate Director Tomas Diaz de la Rubia, who was interested in learning more about the children's museum, remarked on the variety of learning tools. "This looks like a lot of fun stuff. I'd like to stay here and play."

Although a first-time agency amid the list of hundreds of others affiliated with the HOME Campaign this year, the VCM is not a new concept. Initially, the proposal surfaced back in 1999 when a group of local parents and educators identified a serious need for a museum for young children, newborn to age 8, in the Tri-



FRANK NUNEZ/TID

Patti Lann, Laura Dixon, Jana Marden, Lou Terminello, Al Moser, Adam Schwartz, Genevieve Getman-Sowa, Tomas Diaz de la Rubia, Linda Spencer and Theresa Healey (kneeling) participated in a presentation of the Valley Children's Museum, a HOME Campaign agency.

Valley area. Later, the idea was introduced at a Livermore Children's Fair where VCM supporters designed and constructed their first traveling exhibit, a fossil-making activity suited for young children. The event was well received and attendees encouraged the grass roots organization to move forward.

Getman-Sowa explained that funding for building the museum is needed and VCM's inclusion in HOME's agency list comes at an appropriate time when planning for a permanent site is in discussion.

"When the facility is built, it will be the closest available children's museum in this area," she told the HOME campaign group, citing comparable facilities like the San Jose Discovery Museum

and the Berkeley Habitat that are often out of reach, a one-hour drive or more for some Tri-Valley families.

For now, the traveling museum makes "house calls" to schools and events, using Edu-Kits, a pilot educational kit program for kindergarten to second-grade students, that is part of the VCM Interim Program called "Museum Without Walls (WoW!)."

The kid-sized exhibits, activity materials and related curricula highlight a grade relevant educational framework, content standards and assist teachers by drawing attention to relationships between exhibit topics and activities. Edu-Kit themes combine art, science, math and literacy. "Seeing is Believing," with exhibits and activities based on light and color, is the first Edu-Kit completed and circulated in local classrooms.

Spencer commented on the value of the kits, adding that hands-on play will teach children about teamwork. "We need to teach children how to think," she explained.

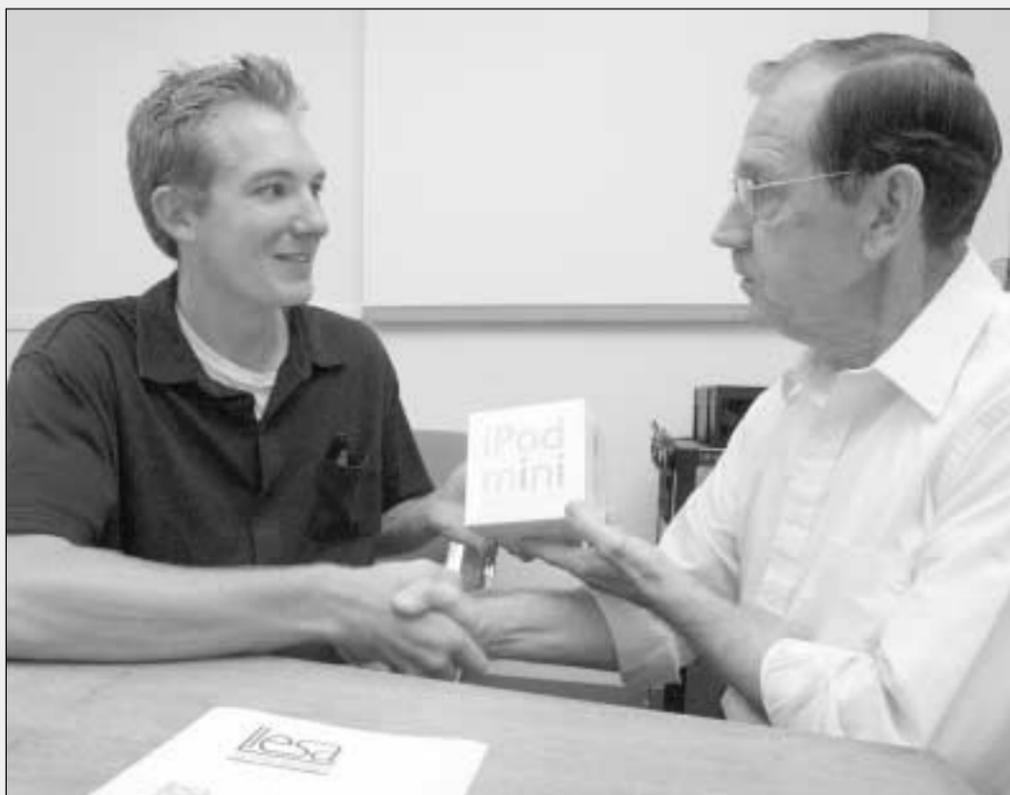
While waiting for the actual museum to be built, the VCM is exploring the possibility of opening an incubator site that would demonstrate to the community the value of such a museum by displaying at least one of the many learning concepts. And, through town-hall meetings to be held this fall and in the winter, supporters will explore new ideas for exhibit themes for the future facility.

With or without walls, the VCM's presence in the community will continue to grow and expand as it steadily plans for its permanent facility.

This year's HOME Campaign kicks off with a Run for Home and HOME Agency Fair on Oct. 28. For more information, visit the Web at <http://www.r.llnl.gov/home2004/>

Learn more about the Valley Children's Museum (VCM) at <http://www.valleychildrensmuseum.org/>

## LLESA logo winner



JACQUELINE MCBRIDE/NEWSLINE



LLESA board member Clark Groseclose, right, presents Craig Mueller of Hazards Control with an iPod mini for his winning design in the Livermore Laboratory Employee Association logo contest. The Mona LLESA logo was retired and the new logo (above) will appear in publications and Web announcements beginning Monday, Oct. 4. Mueller plans to give the iPod mini to San Francisco State student Phillip Hutchison, who helped him with the design. Designs were evaluated on their creativity and ability to represent the wide range of employee services offered by LLESA, as well as their adaptability to size and color variations.



## NEWS YOU CAN USE

### Cataloging electronic ordering options

The Procurement and Materiel (P&M) Department currently has 11 catalogs on-line in the Electronic Ordering System (EOS) containing almost a million items. Technical Release Representatives (TRRs) have issued over 4,500 UniCard orders for catalog items over the past several months. P&M plans to establish additional EOS catalogs during fiscal year 2005, with a long-term goal of making catalog items 20 to 25 percent of all UniCard purchases.

While this goal will direct many TRRs to catalogs, a majority of UniCard orders will continue to be for "non-catalog" items. The diversity of needs for goods and services at the Lab and the high cost of creating and maintaining EOS catalogs combine to limit the catalog-based items P&M is able to offer.

UniCard migration will bring non-catalog UniCard orders into EOS. New types of orders in EOS will support this change. The most common one will be non-catalog orders. Within the non-catalog order category, the following types will be available after UniCard migration in October.

**Drop Shipment Orders.** TRRs, especially those involved with fabrications, often need to purchase an item from one supplier and have it delivered to another supplier for incorporation into a deliverable. UniCard migration will allow a TRR to "drop ship" orders to suppliers.

**Do Not Transmit Orders.** EOS currently

transmits all UniCard orders for catalog items directly to the supplier. After UniCard migration, EOS will also transmit all UniCard orders for non-catalog items to suppliers. Some suppliers, however, do not accept orders transmitted by EOS. In these cases, the TRR will create the order in EOS but mark the order "Do Not Transmit," allowing the TRR to make the purchase in person.

**Emergency Orders.** In a true emergency, a TRR may make a purchase using the UniCard and enter the order in EOS after the fact. An emergency may involve security, regulatory, or ES&H issues that could result in a negative impact on the Lab. Such purchases will usually be at the direction of the Laboratory Emergency Duty Officer.

UniCard Migration will also allow a TRR to place Rush Orders. Further information may be obtained from the Procurement Representative responsible for the EOS agreement.

The P&M Department's plan to migrate all non-catalog UniCard orders to the Electronic Ordering System (EOS) in late October remains on schedule.

P&M will publish additional articles prior to the rollout to provide more details about UniCard Migration. Contact P&M Customer Support at 3-3448 or pcs@llnl.gov for answers to questions about using EOS. For more complete information and to see previous articles, go to <http://www-r.llnl.gov/pm/lincs/news/>.



### South cafe to convert to 'grab and go' services starting Monday, Oct. 4

Effective Monday, Oct. 4, the South Cafe will convert to "grab and go" food service. To prepare for the transition, the South Cafe will be closed today (Oct. 1), and reopen Monday with the new name "South Side Java Wave and Outtakes."

The Java Wave coffee bar will remain and continue coffee and beverage services from 7 a.m. - 2:30 p.m. and will anchor a continental breakfast with muffins and pastries. Lunch service will be from 11:30 a.m. - 1:30 p.m. with "grab and go" salads and sandwiches. Patrons of the South Cafe will receive a coupon for a free bottle of water with the purchase of a fresh Outtakes salad or a free bag of chips with a purchase of an Outtakes sandwich. The coupons are effective, Monday, Oct. 4, and good through Oct. 31.

If you have any questions, call Michelle Quick, 2-0105.

### Manufacturing difficulties delay flu vaccine delivery

One of the two manufacturers of injectable influenza vaccine experienced difficulties, which will delay delivery of doses until mid-October.

As soon as the vaccine is received, Health Services will begin scheduling on-site flu clinics. Additional information on the flu clinics will be provided through *Newsline* and *NewsOnLine*, and the Health Services Website <http://www-r.llnl.gov/healthserv/Services/fluclinic.html>.

For more information and updates on the national flu vaccination campaign, visit the Centers for Disease Control Website at [www.cdc.gov/flu/](http://www.cdc.gov/flu/).

## Technical Meeting Calendar

Friday  
1

#### INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"Studying Binary Asteroids with NGS and LGS AO Systems," by Franck Marchis, UC Berkeley.

Noon, Bldg. 319, room 205. All attendees need to be badged. Contact: Wil van Breugel, 2-7195, or Rachael Mills, 2-6333.

Monday  
4

#### CHEMICAL BIOLOGY & NUCLEAR SCIENCE/ BIOSECURITY & NANOSCIENCES LABORATORY

"High Throughput Screening of Microbial Libraries," by Hyongsok "Tom" Soh, Department of Mechanical and Environmental Engineering, UC Santa Barbara. 2 p.m., Bldg. 151, room 1209, Stevenson Room. Foreign nationals may attend if approved plan is on file, which includes Bldg. 151. Contact: Jim De Yoreo, 3-4240, Jeff Tok, 3-1549, or Katie Thomas, 2-7903.

#### INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

"pSigma: An Infrastructure for Parallel Application Performance Analysis using Symbolic Specification," by Simone Sbaraglia, IBM T.J. Watson Research Center. 10 a.m., Bldg. 451,

room 1025 (property protection area). For more information, go to <http://www.llnl.gov/casc/calendar.shtml>. Contact: Bronis de Supinski, (CASC) 2-1062, or Leslie Bills, 3-8927.

Tuesday  
5

#### BIOSECURITY & NANOSCIENCES LABORATORY

"The Native Architecture of a Photosynthetic Membrane," by Raoul Frese, University of Twente and Free University, Amsterdam. 2 p.m., Bldg. 155 auditorium. Contact: Alex Malkin, (949) 824-4397, or Josie Morgado, 2-7181.

Wednesday  
6

#### BIOSECURITY & NANOSCIENCES LABORATORY

"One-Dimensional Nanostructures as Subwavelength Photonic Elements," by interviewee Donald Sirbuly, UC Berkeley. 10 a.m., Bldg. 151, room 1209 Stevenson Room. All attendees need to be badged. Contact: Alex Noy, 4-6203, or Josie Morgado, 2-7181.

Thursday  
7

#### BIOLOGY & BIOTECHNOLOGY RESEARCH PROGRAM

"Artemis and Werners proteins, Functions in Immunity, DNA Repair and Aging," by Steve Yanonne,

Lawrence Berkeley National Laboratory. 10:30 a.m., Bldg. 361, auditorium — Darwin Room. For the complete schedule of seminar speakers, including titles, abstracts, and supporting information, visit [http://doves.llnl.gov/bbrp\\_seminars/](http://doves.llnl.gov/bbrp_seminars/). Refreshments will be served 10 minutes prior to the seminar. Contact: Alice Yamada, 2-4723, or Nancy Wrigley, 3-6287.

Friday  
8

#### INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"GALEX: A Year Exploring The UV Universe," by Christopher Martin, Caltech. Noon, Bldg. 319, room 205. All attendees need to be badged. Contact: Wil van Breugel, 2-7195, or Rachael Mills, 2-6333.

The deadline for the next Technical Meeting Calendar is noon, Wednesday.

Send your input to [tmc-submit@llnl.gov](mailto:tmc-submit@llnl.gov). For information on electronic mail or the news-group [llnl.meeting](mailto:llnl.meeting), contact the registrar at [registrar@llnl.gov](mailto:registrar@llnl.gov).

## NEWS OF NOTE



## Vision services help employees see clearly on the job

By Leslie Schwartz

NEWSLINE STAFF WRITER

Sharon Wilson understands the challenges low-vision employees face in the workplace and has diligently researched services the Lab offers to help her do her job.

Born blind in one eye, Wilson, a computer scientist in AX Division had to adapt to a new work environment after losing more of her vision last September.

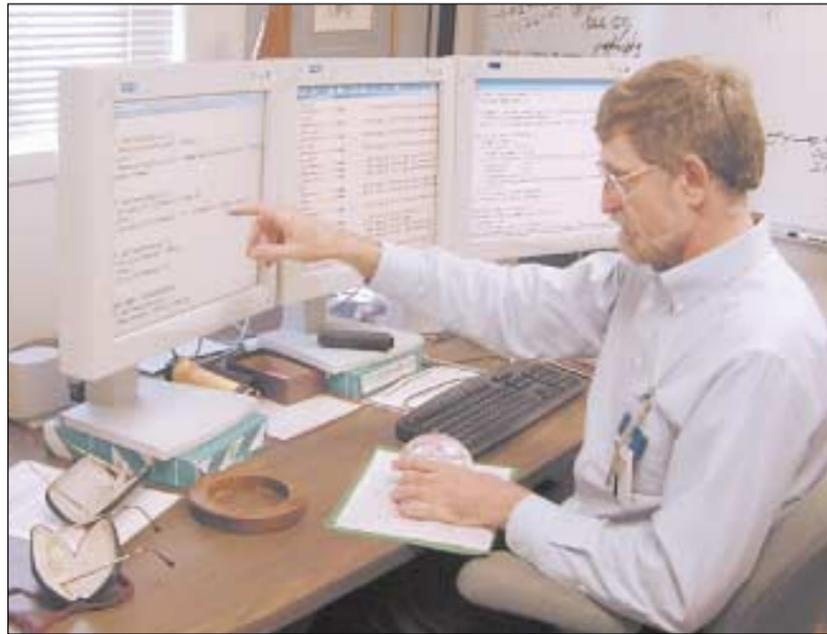
"It took a long time to set up my computer station so it was easy to use and manageable coming back after the incident," Wilson recalled. "I wanted to get back to business, but everything became an impediment."

After ordering special equipment, such as a larger monitor with bigger fonts and a scalable desktop program to help Wilson read her computer screen, she visited the Vision Services and Safety Glasses office. Optometrists Tim Dalby and Alan Milano provided Wilson with many resources and devices, such as a monocular telescope to help her read her computer screen more effectively.

"It's wonderful because these kind of products wouldn't have existed a few years ago," Wilson said.

The Vision Services and Safety Glasses office, located in the Health Services Bldg. 663, offers many services to low vision and partially sighted employees — such as stand magnifiers, handheld magnifiers and monocular telescopes, as well as polarized fitover sunglasses for glare protection.

Wilson also found it helpful to talk to other employees who had gone through similar experiences. Tom Kuczmariski, another low vision employee and computer scientist in the Energy and Environment, Biology and Biotechnology Research Program, and Institutional Computing Division, shared his experi-



Low vision employee Tom Kuczmariski uses some of the visual aids offered through the Vision Services and Safety Glasses office to help him perform his work in the Institutional Computing Division.

ences with Wilson, as well as highlighted helpful services she could use.

"The Accommodations Review Board has repeatedly proven to be an extremely valuable Lab resource for me and has consistently supplied funds to match those provided by my division," Kuczmariski said. "The visual aids purchased with these funds have permitted me to remain a productive computer scientist. I am very fortunate to be employed by an organization that is so dedicated to the welfare of its employees."

Wilson echoed Kuczmariski's sentiments. "This is a great workplace to be in if you have an injury or disability," she said. "Co-workers are very supportive and there are a lot of available resources, but sometimes they don't always know how to help."

The formation of a focus group for low vision and partially sighted employees is one idea to bring together the collective experiences of employees to share struggles and solutions. The focus group also would provide a forum for discussion and support among employees.

"Many of the requests for accommodation funding that come to the Accommodations Review Board are from employees with low vision needs," said Cathy Kaplan, Disabilities Services Program manager and chair of the Accommodations Review Board. "As our work force ages, the probability of vision problems increase and it is nice to have resources available on site to provide solutions. Employees with similar vision problems can share their experiences and hopefully save others from frustration while searching for their own solutions. I think a low vision focus group on site would be very valuable."

Wilson also supports the formation of a focus group because employees "need to collect more experiences so we don't have to reinvent the wheel every time someone gets injured," she said.

If you or others you know have low vision needs, contact or visit the Vision Services and Safety Glasses office, or contact Kaplan, 3-6555, for Accommodations Review Board funding and/or if you are interested in attending the focus group.

The Vision Services and Safety Glasses office offers other services. For example, supervisors who have workers who require laser eye exams should contact the Vision Services and Safety Glasses office. Industrial safety eyewear and computer eyewear are also available. To schedule an appointment, call, 422-5190 or visit [http://www-r.llnl.gov/es\\_and\\_h/safety\\_glasses/index.html](http://www-r.llnl.gov/es_and_h/safety_glasses/index.html) for additional information and hours of operation.

## Hispanic heritage festivities



Members of the Tezkatlipoka Aztec Dancers perform Thursday during a celebration of Hispanic Heritage Month sponsored by the Amigos Unidos Networking Group and the Worklife Programs office. Salsa and Latin band Timbalero also performed at the picnic area near the Lab pool.

As part of the festivities, Amigos Unidos also sold lunch plates and tamales to-go to raise money for the group's scholarship fund.



JACQUELINE MCBRIDE/NEWSLINE



# CLASSIFIED ADS

See complete classified ad listings at  
<https://www.ais.llnl.gov/newsline/ads/>

## AUTOMOBILES

1993 - Plymouth Grand Voyager. Power everything. Quad seating. Premium sound. 139k miles. Runs great. Low blue book \$3k. First \$2500. 925-606-1791

2000 - Porsche Boxster excellent condition, orig owner. White with grey int, 5-spd, power windows, doors, locks, alarm, AM/FM CD, 50K, \$26K obo. 925-997-0011

1962 - Cadillac, 4 dr, original, pearlescent blue-tone white. \$5000 or B.O. 209-475-0405

1993 - - Red Honda Del Sol, clean, 97.5 miles, well maintained, spoiler, 125hp, hard top stores trunk, 30-36MPG/EPA. Another 100-150K miles OK. \$5,995 925-785-4680

1995 - Camaro \$6200. Fully loaded Automatic, V-6, Air Cond., BOSE Speakers, Air bags, T-Tops. 75K miles. Good condition. 925-634-4663

1996 - Lexus ES-300 White 2-tone, new tires, loaded, well maintained, ex-cond, 73K miles, \$11,500. 925-525-4222

1990 - 1990 Mazda MX-6 2.0i 130k miles. Runs great, great gas mileage. \$1200 OBO 925-443-6002

2001 - Volkswagen Jetta, Wolfsburg Edition, white, excellent condition, sunroof, turbo, 5-speed, power windows, cruise, 42k mi, \$12,100 or B.O. 209-545-1308

2001 - Eddie Bauer Expedition, Excellent cond, 43K miles, Leather Quad seating + third row, V8 5.4L, A4WD, Tow package, Sun roof, Multi-CD, 831-439-9769

2002 - VW Passat GLS sedan, 1.8L Turbo, auto, 34k miles, immaculate, \$1,800 in extras, chrome wheels, tinted glass, Full Warr. thru 2006 or 48k, \$18,750 209-832-2056

1988 - Ford Escort, Good condition! Must see. \$1,100 209-892-2369

2002 - Hyundai Accent Hatchback, Silver w/char interior, spoiler, cass, 13k miles. Blue Book pvt party value is \$5,800. Asking \$5,100. 925-828-4100

2000 - Mitsubishi Eclipse GT manual. Red, Black leather interior. Very good condition, power sunroof, seats, mirrors, CD stereo, 71k miles \$9500 925-292-3363

1988 - mercedes-benz, 300e, clean, Black Beauty, 6cyl., 3.0, auto, tint, leather, cd, sunroof, prem. wheels, LOADED, spoiler pkg. \$3,500 OBO 209-529-0431

1989 - Volvo 245 Stationwagon. Auto trans. 240,000 miles (replaced at 200K). No body damage. No accidents. Original engine. Good Paint (Gold). \$800. 925-371-8373

2001 - Volvo S80 Turbo Loaded, Like new. 42k miles \$23,000 OBO 925-371-1205

1995 - Ford Thunderbird, Candy Apple Red, V8, new transmission, 118K miles, original owners, two new tires and new rear brakes. Runs Great \$3,100.00 925-449-5614

1986 - Honda Prelude. Five speed, air, moonroof, in fair condition. Many spare parts, extra moonroof and wheels. \$1,000.00 or best offer. 925-449-1324

1987 - chevy/celebrity 4/door good work car \$500. 209-475-9231

## AUTOMOBILE ACCESSORIES

NEW - Never used, 1997-99 Ford Urethane Roll Pan \$150. 1997-99 Ford 150 Phantom Bumper Grill \$50. 925-550-3809

PICKUP PARTS - Chrome step bars, Dodge Ram \$150. Chevy 99-02 - rear stock bumper, \$150; tail-gate caps, step/fleet side, \$15; euro taillights \$40. 925-443-2173

NEW CHEVY PARTS - Tonneau cover, black, 99-02 shortbed, \$600. Stock rear bumper, 99-02, \$150. Bedliners, under rail, any make/model, \$100 each. 925-443-2173

13 inch TIRES. 2 Michelin 185/70/13 Radial tires, good condition, only \$20 both. Livermore 925-447-7070

## BICYCLES

27in 10 speed 34 years old Raleigh Deep green with white. Used 2 times - Like new Original owner original parts 925-371-0369

Girls (for someone around 10 years old) schwin bicycle \$20, Boys small bike \$10 925-484-4099

TREK 800 womens Sport Mountain Bike: This bike is in excellent condition; still like brand new; 21 speed with a Blue/Green color scheme. \$200.00 209-957-5640

Mens Murray 10-spd. Excellent condition. Sized for smallish adult or large child. 10 yrs old but mostly sat in garage. \$40 OBO. 510-683-9433

## BOATS

1971 Tahiti 18 ft boat, 455 olds. eng. 4 barrel Holley. 248 hrs. Runs good, its a must see. Comes with lan-

dem axel. \$4500.00 firm. 209-832-3694

## CAMERAS

Brand new SanDisk CompactFlash card for digital cameras, 2.0 GB with 5-year manufacture warranty. \$150. 925-606-7892

35 mm Nikon camera, fixed lens, \$40 925-484-4099

## ELECTRONIC EQUIPMENT

3 speed tape deck, dual meters plus extras, 2 Canon color printers \$35.00 for both, Color monitor \$15.00. 925-735-6002

Nice 13in JVC color TV with remote, cable ready \$20 925-371-0369

Misc electronic equipment. Line transformers, attenuators, digital test probes, Cap/res decade boxes, etc. 209-833-6452

Color 21 inch Proscan TV w/remote and matching black shelved TV stand. All in excellent condition. Stand alone was \$100. \$150 925-648-0671

Older computer, w/keyboard and monitor. Good for young children or beginners or extra parts. Works good. 70.00 OBO 510-537-7222

MGX amplifier, excellent condition. Sony equalizer, good condition. Pioneer CD changer, 6 disc, good condition. 925-443-2173

## GIVEAWAY

Drafting table. Tilts and elevates. Very sturdy and in great condition! You haul from Livermore residence. 925-456-3010

Beautiful kittens (M- White/Black tail, F-Tiger Tabby, Grey Longhair Tabby) All FIV-, FLV- worm, mite, flea free, are fixed and very affectionate. 510-482-4122

Free River Rock!! Around 6 yards. Take some/all. Located in Discovery Bay. 925-634-0778

25 in. Color Television, MGA (Mitsubishi) Solid Slate. Works very good, some damage to cabinet. You pick up. 925-373-0936

Free boat storage for avid ocean fisherman willing to share their catch. Convenient Livermore location. 925-455-0486

Single bed and frame 925-484-4099

## HOUSEHOLD

Solid oak corner desk with hutch. Approx 8 feet per side. Good as computer desk. Has 3 drawers, + 1 drawer for hanging file folders. Asking \$200. 925-606-0825

BABY ITEMS. Sale 10/2 & 10/3, 7:30-4:00, Blue Jay Court, Tracy. Cradle, Stroller, Swing, and more. 209-839-1351

Multi-Family Garage Sale, 10/2 & 10/3, 7:30-4:00, Blue Jay Court, Tracy. Appliances, TV, Stereo, Household Goods, Books, Games, Clothes. 209-839-1351

Oak Swivel Mirror. Excellent condition. \$50.00 925-447-9647

Beige contemporary sofa, excellent, \$125. Retro turquoise 1970s sofa, very good, \$75. 2 matching white wicker dressers, lingerie style, \$125. 925-803-5804

Hutch, Oak, Lighted, Glass doors above, solid doors below. Pictures available. \$200 or B.O. 209-475-0405

CRIB-light wood, sleigh style, includes water-proof mattress, \$200.00 OBO. Crib bedding and accessories, Noahs Ark theme, complete set. \$150.00 OBO. 209-833-8306

Bookcase, 72 x 33 x 13, 3 bookshelves with 24 inch high cupboard on bottom with doors, medium dark wood \$80.00 925-449-1823

Two futons, one black wrought iron, one beechwood. Very good condition, coffee table and long end table to match wooden one. 925-447-7768

Moving Sale Sat. 10/2 8am-4pm. 22 Brooks Ct. Oakley. Furniture, appliances, TV, Clothes, Exercise Equipment. Quality Items. Everything must go. 925-679-1753

Solid Oak Entertainment unit (honey color), perfect for a small room, in NEW condition \$150.00 925-447-8291

Bunk Beds or use them as single twin beds. \$50.00 Very nice condition. 209-892-2369

Air compressor, portable, with 25 foot hose, 2 gallon tank. Still in box, never opened. Paid \$90. Great Christmas gift! \$60. 925-648-0671

Leather sofa and chair with ottoman, off white color, 13 years old but still nice. made by emerson, \$50 925-484-4099

Baby stuff for sale. Bassinet: \$75.00 Baby swing: \$50.00. Baby Bath tub: Free! 209-830-6380

Garage Sale, Sat. 10/2 8:30-12:00pm, Computer parts, decorative items, digital phone, 13 inch TV, VCR/tapes, more. 525 Saddleback cir. Liver-

more. 925-443-2856

Crib, white, excellent condition \$75.00, 4 dining room chairs, \$60.00, several other chairs \$5-\$20, TV trays \$5.00, walker \$5.00 925-447-4841

Beautiful natural Childcraft crib (converts to bed), mattress, sheets, bumpers. Barely used (we co-sleep). ->\$400 new; asking \$180 obo. 925-245-9005

Two formal style end tables (\$50 ea). Coffee table (\$75), OBO. Solid dark grained wood. Older style, but excellent condition. Elec. pictures avail. 209-872-4143

Sony 35 inch television - recently serviced in excellent condition - asking \$200; 925-846-9564

For Sale: 4 bar stools. Oak with cane back, excellent condition, \$250 O.B.O 925-447-9276

## LOST & FOUND

LOST-bicycle on 9/21 parked outside B481. Big blue 10-spd girlyman bike with wide seat, wimpy kickstand, fat whitewall tires and no fenders. 510-683-9433

## MISCELLANEOUS

55 gallon plexi-glass fish tank. Rounded corners. Comes with a wooden cabinet base stand plus overhead canopy. Asking \$350. 925-606-0825

TOTAL GYM good condition. Have two, keeping one \$100 O.B.O. 925-513-7380

EDUCATIONAL BOOKS & TOYS. Great for day-cares and schools. Selling 10/2 & 10/3 7:30-4:00. Blue Jay Court, Tracy 209-839-1351

Drafting table w/ tracking square, 48x36 in, w/ adj & folding base. Like new. \$90 OBO. 925-455-8895

Small stand up freezer, white, good condition \$75.00 925-447-8291

Breast Pump kit - \$20.00, Avent Sterilizer system with lots of extras - \$50.00 209-892-2369

Obagi skincare products, new. Gentle cleanser #1 \$22, Foaming gel #1 \$22, Nu-Derm Blender #5 \$52, Sunfader #6 \$40. All are new and sealed. 925-648-0671

John Wayne portrait, approximately 3 feet wide by 2 feet tall, framed \$50 925-484-4099

Waveless King Size Water Bed Mattress, made by Aqua Queen with heater system, Excellent shape. \$75. 209-835-9469

Ping carry golf bag. Dual strap, stand, near new condition. Green. Asking \$40. 925-373-0991

Delta Pro table saw 10in. on stand w/wheels \$350 obo 5 drawer file cab \$25 obo. 7ft, 2 door storage cab w/lock \$30 Bob 925-600-1661

Radial saw, Craftsman 10 inch, on roll around metal stand with storage, \$160.00, folding ladder 12 foot \$30.00 925-447-4841

All Seasons Boutique. Friday October 1st 11am-4pm & Saturday October 2nd 9am-3pm. 4129 Pomona Way Livermore. Proceeds to benefit Livermore Seniors. 925-606-1972

GARAGE SALE, Saturday, 10/2, 8:00-2:00. 5501 Bridgeport Circle, Livermore. Lots of Household Items, Gift baskets, equipment, clothing, and more. 925-449-2071

CARDBOARD BOXES, STURDY for moving/storage: 40 for \$50 925-447-7070

## MOTORCYCLES

1987 - Honda Odysee (Dune Buggy), new overhauled 250cc, 2cycle engine. 18 inch wheels. Fast! \$1800 OBO 209-612-0231

2001 - Buell Blast. Black/silver. 425 mi. Mechanical warranty till 11/07. Cover & tank bag. Great condition. \$2700. 925-606-6310

Dirt bike riding boots, size 9 (fit my 12 year old son) \$10, Full face child's helmet \$5 925-484-4099

2003 - Suzuki SV650 3,175 miles, some after market parts. \$4,500 obo. 925-516-8288

2004 - Polini X1 (WORKS) 50cc race bike. Fast and reliable Perf. cond, must sell asap, many extras bought new 09-03 for 3399+tax \$2,200 obo 925-354-6431

2003 - Harley Davidson Anniv. FLTRI Road-glide Gunmetal Blue, Perfect Condition, Low Miles, Upgrades. \$19,000 209-475-0862

## MUSIC INSTRUMENTS

banez PT-5 guitar multi effects pedal. (dist., delay, wha, chorus, phase) and much more. \$150.00. Pg. 02734 925-525-4030

Cymbal bag. Heavy duty, pro quality carry bag for cymbals. Mint condition! \$35. 925-373-6255

## PETS & SUPPLIES

Critter Cage, great for guinea pigs, hamsters, rats, or tortoises, automatic heat & lights, \$40. 925-484-0697

Adorable rescued kitten- tiger striped white belly and paws. Emma is 22 weeks. Spayed, dewormed & all shots complete. \$65 adoption donation 209-833-0607

Rescued Medium haired pretty calico female kitten 13 weeks old. Shy, but very affectionate. Spayed/dewormed/shots. \$75 adoption fee 925-980-3035

FREE Guinea Pig. Lovable, 6mo old male, short-hair, reddish brown & white. Custom-made, easy-access cage & supplies included. 925-735-0881

2 Ponies- 1 Sorrel Gelding/Broken, 4 1/2 yrs old and 1 Black Mare/Needs work, 2 yrs old. Must go together. \$1500 obo 209-834-8043

Tri-Colored Paint Gelding, TB/OH, age 7. Sound/Gentle. Excellent trail horse. Used by Hunting Guide. Ranch work. Gather/Rope/brand calves. \$4500 209-838-2808

## RECREATION EQUIPMENT

Treadmill - NordicTrack EXP 1000S with multiple workout options, ComfortTrack cushioning system, space saver option, and quiet drive. \$549 OBO 209-521-7702

Mobile travler 18ft. travel trailer, very good condition. Chevy motor. new ref. \$6,000 obo 925-447-7768

Like new Schwinn recumbant exercise bicycle. \$190 or best offer. 650-347-7843

BUMPER POOL TABLE. Good condition. Full set, also card table. \$75 925-443-2334

Control line plane with large engine, recently refurbished, \$40 925-484-4099

Pro-Form 485e Elliptical Trainer. Adjustable health club quality. Very sturdy. Great workout for upper and lower body. Excel cond. \$275.00 925-634-9973

Titleist 975J 9.5 Proforce 65 ATR stiff flex shaft. New Lamkin grip. Excellent condition. Asking \$125 925-373-0991

Bumper Pool Table, real slate bed, excellent condition, easy to move, pkg incl: cue sticks, balls, cover, \$200. 925-484-0697

## RIDESHARING

Express your commute, call 2-RIDE for more information or visit <http://www-r.llnl.gov/tsmp>.

Brentwood - Join our great carpool now! Leave from Albertsons at 6:30 am. leave lab at 4:15 pm. 925-516-2687, ext. 3-8927

Pleasant Hill/Walnut Creek - 14 passenger Enterprise luxury vanpool from PH BART. Arrive 7:50am/leave 4:50pm. Additional Concord pickup location possible. -\$130/mo. 925-943-5443, ext. 2-5793

Orinda - Carpool from Lamorinda seeking 4th rider/driver. Lab hours 8am-4:45pm. Meets near St. Stephens and Highway 24. No smoking. 925-253-0498, ext. 2-9823

Oakland (580 at Keller) - Seeking commute pal. My truck seats driver plus 1. I am willing to drive alternate days if you do the same in your vehicle. Flexible work schedule. 510-635-6506, ext. 2-0108

Modesto - Modesto/Ripon Van Pool has an opening for a full time rider. 8:00 - 4:30 work schedule. 209-544-6411, ext. 2-2727

Walnut Creek - Looking for carpool members. 4(10s) off Mondays. Hours 7:45am to 6:45pm but can be flexible. 925-381-0711, ext. 3-4048

## SERVICES

BABYSITTING & TUTORING. Responsible teen available to babysit or tutor your child up to 10th Grade in Math and English. Reasonable rates. 925-447-1428

At home mother in Mountain House looking to babysit. If coming from the east, its right on the way off 580. Will beat daycare prices! 209-836-3806

CHILDCARE <1 mi from LLNL has openings for children ages 0-5. Limited school age slots also available. 925-245-9521

Carpenter with 15 years experience specializing kitchen, bathroom, hardwood floor, etc. remodeling and repairing. 925-249-9186

CONCRETE-foundations, custom, stamped, colored, sealing & more. Over 20 years experience. Free estimates. 408-806-9816

ClutterLess(CL) Self Help Group. Clutter stressing you out? Mondays 7-8:30 PM. Come: Pleasanton Presbyterian, Rm 7, 4300 Mirador Drive, 925-443-0766

## SHARED HOUSING

Livermore-room for rent, 5 miles from lab, non-smoking, female, utilities included, \$500/mo. 925-443-0218 925-443-0218

Manteca - Owner has a room for rent in 3 bed/2 bath home. Rent negotiable. Non-smoker. 209-824-8447

## TRUCKS & TRAILERS

1998 - Dodge Ram Quad cab SLT 1500, Fully loaded great condition, custom lift 4x4, Infinity stereo system, leather, AC, running boards. \$16,000/OBO 925-570-5342

1972 - 1972 Dodge 3/4 ton truck. 400 C.I.D. engine. Runs well, new tires. White with white interior. 94K miles. \$900.00 OBO. 925-456-3010

1999 - Chevy Silverado Ext Cab, 7in lift kit, flow masters, hyper tech chip, custom 3:56 gearing, awesome stereo sys: new 35in tires. \$16,500.00 obo 209-825-9398

1998 - Dodge Ram Quad cab SLT 1500, Fully loaded great condition, custom lift 4x4, Infinity stereo system, leather, running boards. \$16,000/OBO 925-570-5342

2001 - F150 4X4 ext cab. Has been in a wreck. Drive train in great shape. Bed in great shape. \$3000. Must take entire truck. 925-443-8758

1978 Chevy 1/2 ton Pickup. Call for more information. 209-579-2129

Rack for short bed Chevy Pickup. Make offer 925-447-8608

1998 - Travel Trailer: Komfort 24 ft with dinette slide-out, queen size bed, shower-tub, microwave, dual batteries. Clean, Call for details \$12,500.00 925-212-7231

1989 - Ford 3/4 ton, 460 cu.in. V8 EFI, Automatic, long bed, super cab, very clean, excellent condition, 30,200 actual miles, \$6,950.00 925-447-4841

2002 - Dodge Dakota 4 Door Sport 36000 miles 5 speed 6 cylinder camper shell 408-314-4339

1999 - Ford Ranger XLT Supercab, V6, automatic, 3.0 liter, 4WD, power steering, a/c, cd player, towing pkg., bed liner, alloy wheels. \$8,350. 925-443-4444

1997 - Jeep Grand Cherokee Limited Sport Utility 4WD, fully loaded, tow pkg, V8, 165K miles, great shape. Low Blue book, \$8,350.00. 510-755-0447

## VACATION RENTALS

Palm Springs - --hotel resort. 2 beds, full kitchen, close to Joshua Tree Natl Park and more. November 19-29. Call 925-606-5660

**GREENVILLE***Continued from page 1*

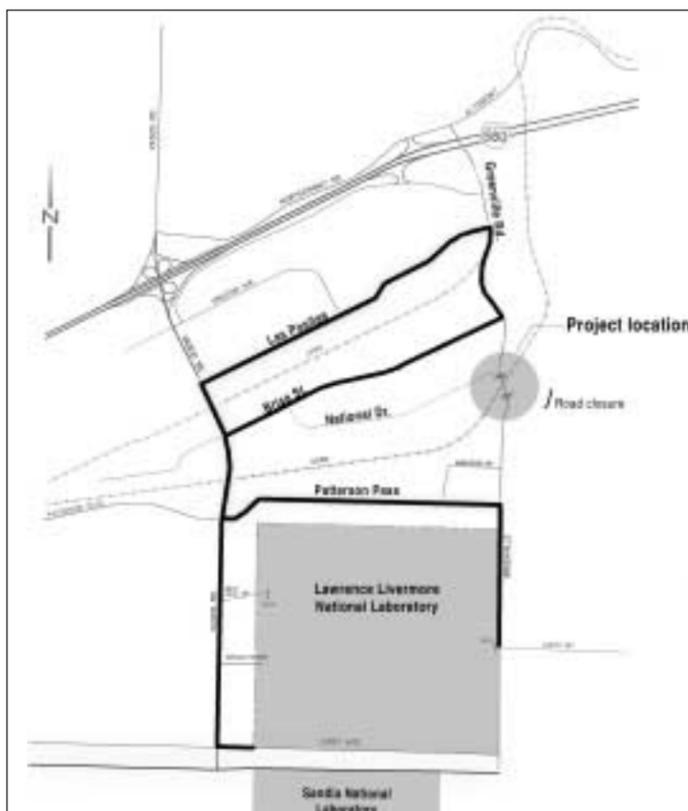
medical appointments, day care pickups and drop-offs, and other commute-related endeavors accordingly through next August. The City of Livermore offers updates on the project at <http://www.ci.livermore.ca.us/eng/roadwork.html#Greenville>.

Several alternate route suggestions:

- Eastbound on I-580 — Exit First Street, continue southbound on First, then left on Mines Road, left on Patterson Pass Road, right on Greenville Road.

- Eastbound on I-580 — Exit First Street, continue southbound on First, then left on Mines Road, left on Patterson Pass Road, right on South Vasco Road.

- Eastbound on I-580 — Exit First Street, continue southbound on First, then left on Mines Road, left on East



Avenue.

- Eastbound on I-580 — Exit North Livermore, continue southbound on North Livermore, then left on First Street, right on Mines Road, left on Patterson Pass Road, right on Greenville Road.

- Eastbound on I-580 — Exit North Livermore, continue southbound on North Livermore, then left on First Street, right on Mines Road, left on Patterson Pass Road, right on South Vasco Road.

- Eastbound on I-580 — Exit North Livermore, continue southbound on North Livermore, then left on East Avenue.

- Westbound on I-580 — Exit Greenville Road, turn left on Northfront Road, continue to North Vasco Road, left on North Vasco Road and over the freeway.

- Westbound on I-580 — Exit Grant Line Road (north/right), left on Altamont Pass Road, continue past Greenville Road intersection, and continue west on Northfront Road. [Altamont becomes Northfront] to North Vasco Road, then left on North Vasco Road and over the freeway.

**CREST***Continued from page 1*

Eugene Collins and Arnold Burger — the director and associate director of the new NSF Center.

The Laboratory's Research Collaborations Program for HBCUs and MIs develops and promotes scientific links between the Lab and minority serving universities. It has been very successful in establishing productive collaborations involving professors and students at these universities with scientists and technical programs at the Laboratory. The program is within the Lab's University Relations Program, and is directed by V-Division physicist Kennedy Reed, who also will serve on the external advisory board for the new center at Fisk.

The NSF CREST Awards are \$5 million, five-year grants awarded to the most research-productive minority serving universities, and the awards are renewable for an additional five-year period. According to NSF, these awards are granted to minority serving institutions that "demonstrate the existence of a strong research and education base and a compelling vision for research infrastructure improvement as well as an effective plan and the resources necessary to achieve and sustain national competitiveness in a sharply focused area of science or engineering research."

"Our work with Fisk is an example of how our Research Collaborations Program can help Minority Serving Universities obtain external

funding to strengthen their research and training capabilities," Reed said. "It also shows how the program can help connect these universities with UC universities as well as the Lab."

George Turner is one of the students benefiting from the tie between Fisk and the Laboratory. The Fisk graduate student completes his summer internship in the Physics and Advanced Technologies Directorate this week and returns to school the week of Oct. 3.

"I decided to come here because of the cutting edge science that goes on here at the Lab," Turner said. "Outside of what you see in print media, there is a lot of research going on here that is not publicized but is really cutting edge and just as interesting."

Turner said he is specifically interested in medical imaging and biophotonics, and performed his work at the Lab in conjunction with the UC Davis Center for Biophotonics

"This was a good experience for me because bioscience is not a major research area at Fisk," he said. "Having interacted with scientists from areas of chemistry and biology and seeing how the whole program is intertwined has been a very positive experience."

Turner's work at the Lab focuses on the study of an antifreeze protein found in arctic fish that prevents their blood from freezing in sub zero temperatures. Through Raman spectroscopy, he is studying interactions of that protein with various substrates.

The Laboratory currently has three collaborations with Fisk. Steve Payne in Laser Science and Technology is the Lab's principal investigator in a collaboration, which involves

research on materials for solid-state tunable mid-IR lasers. Bill Craig in I-Division is the Lab's principal investigator in a collaboration focused on radiation detectors for homeland security and space science applications. The third collaboration is with the Lab and the UC Davis Center for Biophotonics, and includes two projects — one in which scientists prepare nanoparticle substrates for the ultra sensitive analysis of cellular analytes by surface-enhanced Raman spectroscopy, and the other is Turner's project. Thomas Huser of the Chemistry and Materials Science Directorate and Steve Lane of PAT are the Lab's principal investigators in this collaboration.

Reed said the CREST award would bring substantial resources to Fisk, which will enhance their capacity to carry out research and to train students. He said the new resources also would enable the school to attract and support more undergraduate and graduate students in the physical sciences.

"The Lab will benefit since the increased research capabilities at Fisk will make it possible for professors and students to expand their work with the Lab, and to contribute even more effectively in their technical collaborations with Lab scientists," he said. "The award will also help us train more minority students for the science and technology work force. With the growing connections between Fisk and the Lab, some of these students could eventually become Lab employees."

As for Turner, he plans to continue his studies and pursue his Ph.D. in biophysics and hopefully bring his talents back to the Laboratory.

**KULKARNI***Continued from page 1*

tural' differences, through our shared values and common goals, we should open the door wider for greater interaction between the national laboratories and UC campuses and thus gain efficiencies by sharing and leveraging capabilities and resources."

Steve Patterson, associate director for Engineering, says Kulkarni in his new position will be able to help both UC and the Lab. "Satish has not only a broad view of Lab programs, but insights into how they work that will be invaluable in identifying areas for collaboration between labs as well as labs and campuses."

In his new position, Kulkarni reports to John Birely, UC associate vice president for Laboratory Programs.

Kulkarni says elements of the new job include:

- Working with the leadership of UCOP's Lab Management and the national labs to improve communication and performance on joint activities. He notes that DOE and National Nuclear Security Administration look to UC for help in this area.

- Developing UC Laboratory Programs' vision/mission that will paint a composite picture of UC and the national laboratories and effectively communicate the *raison d'être* for the UC/Lab partnership.

- Identifying ways in which this partnership will benefit science and technology in the national interest. This would not only include lab collaborations with UC campuses but also other universities as appropriate.

He will also interface with the UC Academic Senate to explore areas of mutual interest that could enhance the UC-Lab relationship.

This will be a "multi-location" assignment, requiring extended travel to other labs and UC campuses.

His assignments have spanned national

security, energy and environment and bioscience programs. Prior to serving as NTED division leader, Kulkarni served as a section and thrust area leader in the Nondestructive Evaluation Section; project manager for the Lab/UC/Stanford University Synchrotron Radiation Beamline Project; Engineering team leader for the Atomic Vapor Laser Isotope Separation (AVLIS)/Centrifuge Project Peer Review; project leader for the W-82 Weapons Reliability Project and the Flywheel/Containment Development Projects.

"Like many others at the Lab, I have had a wide variety of assignments. I'm also used to working in a multidisciplinary environment," Kulkarni said. "My broad experience base has given me a good understanding of the issues and the challenges we face today. I hope to be able to leverage this in my new assignment."

"UC Office of Laboratory Management is playing a very proactive, positive and constructive role in this process," he added. "In the long run, this will benefit everybody."

# Site 300 is an oasis for a rare native plant

If you visit Site 300 at this time of year, it's not difficult to find big tarplant (*Blepharizonia plumosa*) blooming along roadsides and in other "disturbed areas," such as areas graded for roadways or designated for prescribed burns. Big tarplant thrives in the harsh arid Site 300 environment.

Although fairly common at Site 300, big tarplant is an extremely rare plant included in the "California Native Plant Society's Inventory of Rare and Endangered Plants of California." Big tarplant may be limited to as few as three general areas outside of Site 300. Its range includes Alameda, Contra Costa, San Joaquin, Stanislaus and Solano counties, where it is found in dry grasslands at elevations less than 1,650 feet.

Late summer may seem like a strange time of the year to be discussing rare plants: temperatures are near 100 degrees, the hills are brown with dried grasses and Livermore Valley residents are starting to long for the first fall rains. But amazingly, big tarplant is one of many California native plants that have adapted to bloom in the hottest and driest part of the year. Big tarplant is a fall flowering annual plant. Similar to the rest of the native annual flora, its seeds germinate in the fall and winter with the first rains of the season. However, unlike the more widely known spring flowering annuals, big tarplant remains relatively inconspicuous until the very end of the summer when it blossoms and sets seeds just before the fall rains start the cycle again.

Big tarplant lives on moisture that remains in the soil after the spring flowering plants have dried and withered. It's hard to believe there is any water left in that dry, hard soil in August, but surprisingly there is. It is the same moisture that some of our noxious late-season weeds survive on, such as yellow star thistle.

Big tarplant has developed many strategies to survive in the conditions that exist at and around



By Lisa Paterson



STEVE GREGORY

Big tar plant (left) blooms late in the year in September and October when most Site 300 plant life is dried and dormant. It easily grows along the roadsides at Site 300 (above).



Site 300. This species is a member of the sunflower family (*Asteraceae*). As is common in many members of the sunflower family, tiny glands on the stems and leaves of big tarplant, give it a distinctive smell. The resin produced by these glands helps to deter herbivores such as insects and deer. Its inner seeds have tiny feather-like appendages, called pappus, which give each seed the appearance of a tiny helicopter and help

them to disperse in the wind. The small hairy leaves of the big tarplant help to limit the amount of water it loses through evaporation.

Research conducted by LLNL's Environmental Protection Department indicates that the annual prescribed burns conducted at Site 300 play a role in the abundance of this rare species at the site. Big tarplant grows in large numbers in areas that are routinely burned at Site 300. This is unusual because at the time of the annual spring burns, the plant is a small green seedling, and thus very susceptible to fire damage. Although fire is fatal to individual big tarplants directly in its path, fire may provide the disturbance necessary to reduce competition with other plant species (such as exotic annual grasses) and allow larger groups of big tarplant to be established.

It is possible that the larger Site 300 big tarplant population is acting as a group of smaller populations that are mostly isolated. Seeds are occasionally exchanged between the small populations so that if one is completely destroyed by fire it can be repopulated by seeds from another. This group of small populations is referred to as a metapopulation. Smaller groups of big tarplant may establish or disappear, depending on fire uniformity and intensity, but the metapopulation is sustained.

Although historic occurrences of big tarplant have been lost as a result of residential development and competition with non-native plants, it is perfectly adapted to the hot, dry, windy grasslands of the Altamont Hills and the cycle of wildfire that are a natural part of this environment (see the Aug. 20 Wild Side). Research continues at LLNL to determine how disturbance (prescribed burns, road grading) affects big tarplant. It is hoped that this research will help determine the management practices necessary to promote healthy populations of big tarplant both at Site 300 and throughout its historic range.

## SUPERCOMPUTER

Continued from page 1

milestone was attained during internal testing at IBM's production facility in Rochester, Minn.

"In July, I predicted that America would reclaim the lead in Supercomputing and today it has," Energy Secretary Spencer Abraham said. "Wednesday's announcement that BlueGene/L is now number one is just the tip of the iceberg. This achievement represents a deliberate long-term investment by the Department of Energy in high performance computing technology for U.S. competitiveness. When complete, BlueGene/L will be eight to 10 times faster than the Earth Simulator. America will be safer as this machine will significantly impact the Stockpile Stewardship program by helping to better understand the safety, performance and surety of the enduring National Nuclear Stockpile."

"We're excited by this preview of coming attractions," said Dona Crawford, associate director for Computation. "The DOE and National Nuclear Security Administration have worked hard to bring this project to fruition. Building on a long history of working together on supercomputing projects, the Laboratory and IBM are again forging new frontiers in high performance computing. This will bring important new capabilities to the Laboratory's national security missions for DOE and NNSA."

Delivery of the first BlueGene/L (BG/L) racks to Livermore is scheduled for November with completion in spring of 2005.

"While a one-eighth-scale BG/L system has exceeded the performance of the Earth Simulator on the LINPACK benchmark used for the Top 500 list," said Michel McCoy, the acting ASC Program leader at LLNL, "the real story is that the final BG/L system, which will be operating at the Lab by summer 2005, will exceed the power of the Earth Simulator by a factor of about eight while requiring one-sixth as much electrical power and one-tenth the floor space."

"Moreover, the system's cost at under \$100 million is less than one-fourth of the cost of the Earth Simulator. These represent order of magnitude improvements in multiple dimensions, and orders of magnitude, as opposed to incremental improvements, make for dramatic differences in the kind of programmatic science that can be attempted," McCoy said. "For this reason, this computer is potentially revolutionary, and demonstrates how a government-industry partnership can be very effective in advancing multiple national agendas in technology, science, competitiveness and national security."

Applications for Blue Gene/L include protein science simulations, modeling of the aging and properties of materials and modeling turbulence phenomena.

IBM's team of engineers and researchers continue to expand and test the system in anticipation of the upcoming publication of the Top500 Supercomputer list, which will be announced at the Supercomputing Conference 2004 in Pittsburgh, Penn. in November.

The IBM BlueGene/L supercomputer is a work in progress, with much larger systems planned for installation at IBM's TJ Watson Research Center, as well as the Laboratory.



Newsline  
UC-LLNL  
PO Box 808, L-797  
Livermore, CA 94551-0808